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# NASA Policy Directive

## NPD 2830.1A

Effective Date: November 02,  
2011Expiration Date: November 02,  
2016**COMPLIANCE IS MANDATORY**[Printable Format \(PDF\)](#)

Request Notification of Change (NASA Only)

## Subject: NASA Enterprise Architecture

**Responsible Office: Office of the Chief Information Officer**

### 1. POLICY

a. This directive establishes the policy and responsibilities for maintaining and using the NASA Enterprise Architecture (EA). Under the direction of the Agency Chief Information Officer (CIO), NASA will establish an EA Program (NASA EA Program) to develop and maintain the NASA EA that will serve as the primary authoritative resource for Information Technology (IT) planning and execution.

b. The NASA EA shall:

1. be a composition of architectures and set of integrated reference models that map all IT initiatives, capabilities, and services to Agency needs;
2. serve to guide executive decision making, establishing a clear linkage between present capabilities and future NASA mission needs. This includes the identification of potential shortfalls and redundancies in IT capabilities; the timeframe in which the shortfall or redundancy exists; and an analysis of the industry alternatives and remedial solutions/approaches;
3. provide a foundation for further development, modernization or modification, and enhancements of integrated architectures;
4. identify mission IT dependencies;
5. make service and related information available through the NASA Open Government initiative;
6. be used as a tool to integrate strategic planning efforts and to select, guide, manage, rationalize, and prioritize Agency investments;
7. establish the framework for Agency interoperability by providing the standard, rigorous construct for horizontal and vertical integration of mission needs and business processes through architecture;
8. be integral to the budget life cycle, enabling informed and timely procurement decision making to influence capital and strategic sourcing investments; and
9. promote transparency and accountability by aligning NASA functions/capabilities, services, systems, components, and related standards to Agency strategy; Agency strategy may also be informed by a better understanding of all these mission support elements.

c. The NASA EA Program shall define the NASA EA, the operational parameters for its

development, and requirements for its intended use.

d. The NASA EA common framework and methodology shall be used Agency wide.

## **2. APPLICABILITY**

This NPD is applicable to NASA Headquarters and NASA Centers, including Component Facilities and Technical and Service Support Centers. This language applies to the Jet Propulsion Laboratory (JPL), other contractors, grant recipients, or parties to agreements only to the extent specified or referenced in the appropriate contracts, grants, or agreements. 3. AUTHORITY

a. 5 U.S.C. § 552a, Privacy Act of 1974, as amended.

b. 40 U.S.C. §§ 11101 et seq., Clinger-Cohen Act of 1996, also known as the Information Technology Management Reform Act, as amended.

## **4. APPLICABLE DOCUMENTS**

a. OMB Circular No. A-130 (Revised), Management of Federal Information Resources.

b. OMB Circular No. A-11, Preparation, Submission and Execution of the Budget.

c. NPD 1000.0, NASA Governance and Strategic Management Handbook.

d. NPD 2800.1, Managing Information Technology.

e. NPD 2810.1, NASA Information Security Policy.

f. NPR 4200.1, NASA Equipment Management Procedural Requirements.

g. NPR 7120.7, NASA Information Technology and Institutional Infrastructure Program and Project Management Requirements.

h. NPR 8831.2, Facilities Maintenance and Operations Management.

i. National Institute of Standards and Technology (NIST) Special Publications 800 Series.

j. Chief Financial Officers Act of 1990 (this is currently misplaced in the References Appendix).

k. NPR 2830.1, NASA Enterprise Architecture Procedures.

## **5. RESPONSIBILITY**

a. The CIO shall:

1. be the executive sponsor of the NASA EA, responsible for executive direction and for communicating its strategic use as a management tool;

2. be responsible for the implementation and management of the EA Program and as such, provides its strategic direction and enforces its requirements;

3. appoint a NASA Chief Enterprise Architect (NCEA) with the day-to-day responsibility for managing the NASA EA Program, conducting oversight of its implementation throughout the Agency, and measuring the use of EA as the organizing construct for enabling a highly integrated mission and institution; and

4. develop policy and procedure for integrated capabilities-based planning to augment and facilitate existing strategic planning processes.

b. Each Directorate Associate Administrator shall be responsible for ensuring that their respective current and future directorate requirements, needs, activities, and capabilities are appropriately integrated into the NASA EA and use their discretion in assigning appropriate personnel to this activity.

c. The Assistant Administrator for Procurement shall:

1. be responsible for the inclusion of appropriate contract clauses that contain the requirement for compliance and alignment with the NASA EA; and
2. shall use EA artifacts as a contributing component of the Agency-wide procurement strategy.

d. The Chief Financial Officer (CFO) shall:

1. use the NASA EA as the basis for Agency IT financial management planning, including those required in the Chief Financial Officers Act of 1990 (the CFO Act, as amended); and
2. collaborate with the CIO to ensure that the NASA EA supports the Agency's Planning, Programming, and Budget Execution (PPBE) processes.

e. The Agency Chief Engineer (CE) shall work with the NCEA to assist in the creation, maintenance, and governance of an EA that establishes:

1. a strategic direction for the Agency's IT services in support of the CE's mission objectives;
2. a long-term plan for implementing those services according to the CE's needs;
3. a basis for assessing program and project compliance with the strategy and plan;
4. a basis for measuring the performance of existing and future IT services; and
5. reference for iteratively integrating and optimizing the Agency's ability to achieve its strategic goals.

f. The NCEA shall:

1. develop and maintaining the NASA EA;
2. issue procedures, technical standards, and guidelines associated with the EA;
3. report, through the Office of the Chief Information Officer, on the maturity of the EA Program to the Office of Management and Budget and the Government Accountability Office;
4. use the EA to plan, design and manage services/investments through technology forecasts, such that institutional provisioning of IT capabilities anticipates and services programmatic needs;
5. coordinate with stakeholders to ensure their requirements are captured in the NASA EA and make the contents of the NASA EA widely available; and
6. issue guiding principles, procedures, and technical standards for the EA to create an integrated Agency-wide perspective, including a function as integrator for the Agency EA, facilitating the coordination and collaboration between architecture elements.

g. Each Center Director (including the JPL Director) shall:

1. be responsible for governing Center-level IT investment, implementation, and operation decisions and activities based on the NASA EA;
2. collaborate across Center-level organizations, programs, and projects to progressively integrate IT needs and architecture activities into the NASA EA; and
3. appoint a responsible designee ("Center Enterprise Architect") for Center-level architecture activities.

h. Each Center Enterprise Architect shall:

1. be responsible for interface, collaboration, and coordination of EA activities with the NCEA and the Mission Directorate programs and projects at their Center; and

2. interface as required to maintain alignment with the NASA EA, including adhering to standards and other guidance as appropriate from the NCEA.

## **6. DELEGATION OF AUTHORITY**

None.

## **7. MEASUREMENTS**

NASA Headquarters, Mission Directorates, NASA Centers, Component Facilities, and JPL shall develop, maintain, and communicate balanced measures that best indicate the EA performance in their organizations through formal reporting systems to the Agency Chief Enterprise Architect. Measures are described in the companion NASA Procedural Requirement, NPR 2830.

## **8. CANCELLATION**

NPD 2830.1, The NASA Enterprise Architecture, December 2005.

**/s/ Charles F. Bolden, Jr. Administrator**

### **ATTACHMENT A: Reference Documents:**

- a. 5 U.S.C. §§ 1 et seq., Government Performance and Results Act of 1993, as amended.
  - b. 31 U.S.C. §§ 501 et seq., Chief Financial Officers Act of 1990, as amended.
  - c. 44 U.S.C. § 3544 Coordination of Federal Information Policy - Federal Agency Responsibilities.
  - d. 41 U.S.C. § 251, Federal Acquisition Streamlining Act of 1994, as amended.
  - e. 44 U.S.C. § 3504, Government Paperwork Elimination Act of 1998, as amended.
  - f. 44 U.S.C. §§ 3601 et seq., E-Government Act of 2002: Management and Promotion of Electronic Government Services, as amended.
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**/s/ Charles F. Bolden, Jr.  
Administrator**

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